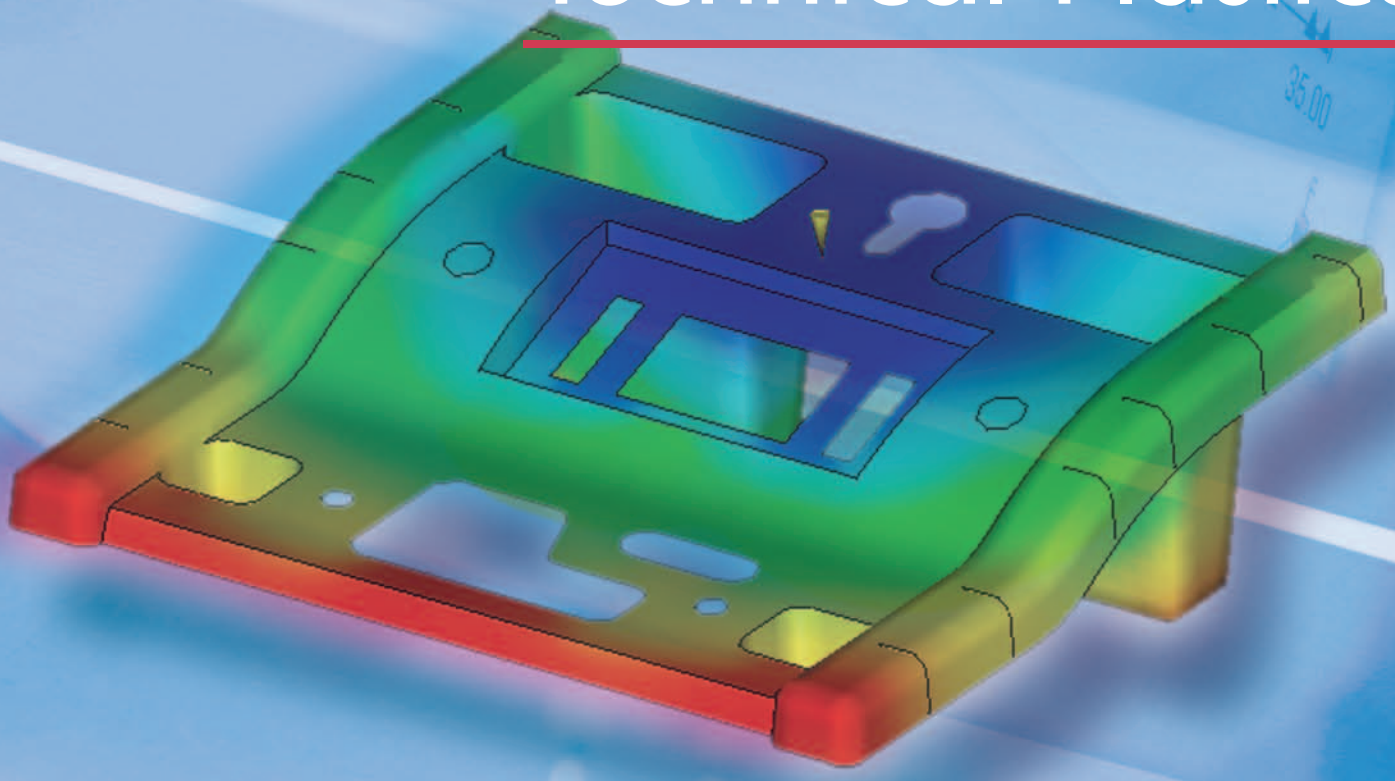
imtech*design*

Moldflow for Technical Plastics



www.imtechdesign.com

DESIGNING FOR SUCCESS

Advanced computer simulation technology equips imtech design to offer pre-manufacture guidance that helps you optimise new product designs and secure moulding success.

Our aim is to provide a "pro-active solution oriented service" that enables our customers to build quality moulding attributes into new products at the design stage, reducing new mould commissioning time.

imtech design uses the powerful Moldflow™ system to simulate how the cavity of a plastic injection mould will fill, mould cooling and the dimensional characteristics of the finished moulding.

Moldflow™ technology is just as well-suited to investigating practical solutions for existing moulds as it is for designing quality into new projects.

The principle benefit of imtech design's technology is improved part quality and efficiency through the following: -

- Optimum filling patterns and gate positions
- Optimised wall thickness
- Optimised feed system dimensions
- Controlled weld line position and quality
- Reduced cycle time for maximum production
- Increased operator control over moulding process
- More even mould cooling
- Evaluation of dimensional stability
- Corrective action to reduce distortion
- Faster mould commissioning

SUMMARY OF SERVICES

Mould Filling Simulation

Optimum gate positions & fill patterns
Fibre orientation
Gas injection
Sequential and Dynamic feed

Mould Cooling Simulation

Cycle time and process efficiency
Traditional & Conformal cooling

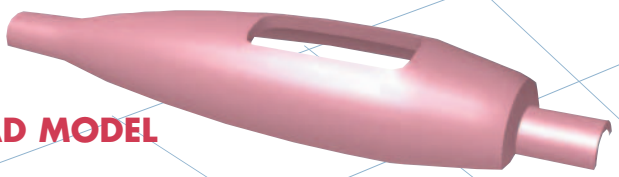
Part Shrinkage & Warpage Simulation

Distortion and dimensional tolerance
Fibre-filled and un-filled materials

CAD Model Translation

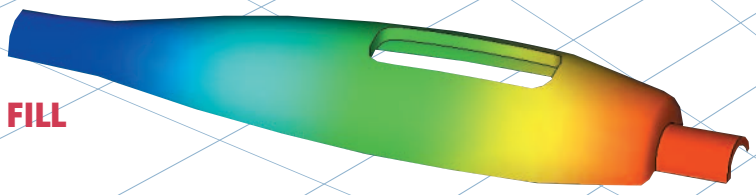
Mid-plane & Fusion mesh

OPTIMISING PERFORMANCE



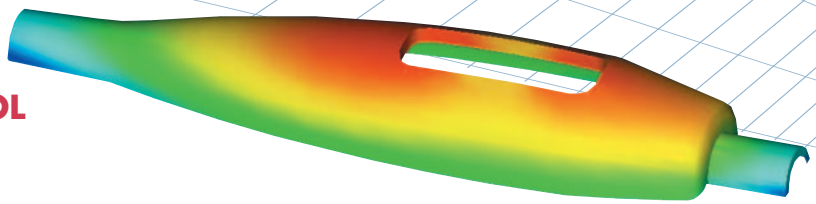
CAD MODEL

With mould filling analysis, improvements in part quality are achieved by refining gate points, positioning weld lines, eliminating gas traps, balancing pressure drops and reducing residual stress levels. Production costs are reduced by optimising wall thickness, fill pressure, and clamp force, and by identifying the ideal process parameters.



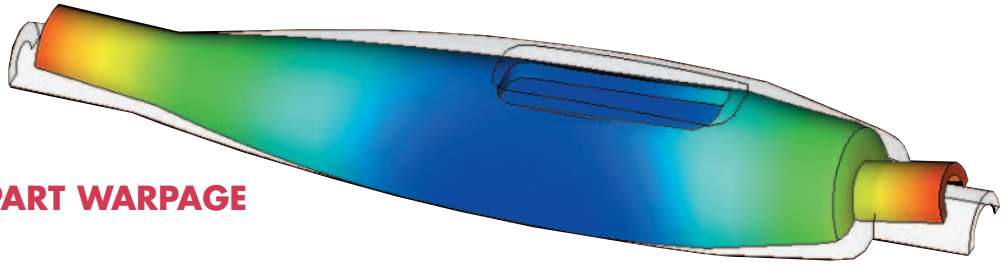
CAVITY FILL

Mould cooling analysis is used to optimise the cooling channel distribution throughout the mould for maximum cooling efficiency. Moldflow™ cooling technology is compatible with traditional drilled cooling channel design and rapid tooling – conformal cooling channel networks.



MOULD COOL

Warpage analysis programs evaluate the dimensional characteristics of a moulding. In addition, diagnostic capabilities allow the cause of warpage to be identified and the successful calculation of a practical solution during the design phase.



PART WARPAGE

Moldflow™ simulation results act as a powerful catalyst, promoting communication between each partner, from the designer to the production engineer.

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